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(54) SOLID POLYMER ELECTROLYTIC FUEL CELL

(57) Abstract:

PROBLEM TO BE SOLVED: To provide a fuel cell which is easily assembled or replaced, and has high reliability, by using an electrolyte/electrode junction body which is formed by adhering catalyst layers to both sides of a polymeric electrolyte film, and thermo-compression-bonding porous electrode base material to them using cover sheet films.

SOLUTION: By adhering and forming a catalyst layer 4 on the central part of both sides of a square polymeric electrolyte film, an electrolyte/electrode junction body 3 is formed. On both sides of the junction body 3, porous electrode substrates 2 are placed on the catalyst layers 4. Then, the porous electrode base materials 2 are thermo-compression bonded using a cover sheet film 1 having a hot melt layer. The cover sheet film 1 consists of a substrate film and a hot melt layer, preferably has about 10-200 µm of thickness and about 20-80% of the rate of the hot melt layer, and is used by cutting off the part corresponding to the catalyst layer 4

at the central part. The thermo-compression-bonding is performed with hot rolling or hot press. Using the produced electrolyte/electrode junction body, a high reliable solid polymer electrolytic fuel cell is provided.

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